

REMARKS

This application has been reviewed in light of the Office Action dated July 6, 2007. Claims 5 and 22 have been canceled without prejudice or disclaimer of subject matter recited therein. Claims 1, 6-8, 18, 23 and 25 have been amended to define more clearly what Applicants regard as their invention. Claims 1-4, 6-21, and 23-35 are pending in this application, of which Claims 1, 10, 18, 27, and 30-33 are in independent form. Favorable reconsideration is requested.

The Office Action does not acknowledge clearly that a certified copy of the French priority document has been received. A certified copy of the priority document was received by the Patent and Trademark Office on October 28, 2003. Applicants respectfully request the Examiner to acknowledge clearly that a certified copy of the priority document has been received.

Claims 1-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0027994 to *Katayama* in view of U.S. Patent No. 7,184,548 to *Wee*.

Claim 1 is directed to a method of scrambling a digital signal, including the steps of decomposing the signal into several regions each containing digital data, and encoding the signal in a format comprising header data specific to each region and which comprise at least one part representing the amplitude of the data of the region considered. The method further includes the step of modifying among the header data specific to at least one region of the signal, the part of the header data representing the amplitude of the

data of the region considered. The modifying step includes making use of at least one transformation key K_u .

Among other notable features of Claim 1 are (1) encoding the signal in a format comprising header data specific to each region and which comprise at least one part representing the amplitude of the data of the region considered, and (2) modifying among the header data specific to at least one region of the signal, the part of the header data representing the amplitude of the data of the region considered, wherein the modifying step includes making use of at least one transformation key K_u .

By virtue of these features, a digital signal is encoded such that an authorized recipient can decode the digital signal, or portions thereof. Moreover, a system implementing the method of Claim 1 can have reduced complexity, compared to prior systems that prevent unauthorized access to the content of digital signals.

Katayama, as understood by Applicants, relates to an audio system including an audio signal processor provided with embedding means for embedding in the audio signal a watermark audible to the human sense of hearing when the audio signal is played back, and an audio player provided with removing means for removing, using a specific key, the watermark embedded in the audio signal.

At page 3 of the Office Action, the Examiner cites paragraph 0022 of *Katayama*, which discusses a band separator for separating the audio signal into a plurality of frequency band signals, each signal having a specific frequency band.

However, Applicants have found nothing in *Katayama* that would teach or suggest encoding the signal in a format comprising header data specific to each region and

which comprise at least one part representing the amplitude of the data of the region considered, as recited in Claim 1.

At page 3 of the Office Action, the Examiner concedes that “*Katayama* does not explicitly teach modifying among the header data specific to at least one region of the signal, the part of the header data representing the amplitude of the data of the region considered.” However, the Examiner asserts that *Wee* teaches such a feature, and the Examiner cites column 16, line 56, through column, 17 line 19, and Figure 20, of that patent.

Wee, as understood by Applicants, relates to a method and system for securely and scalably encoding data, in particular video data, and to a method and system for decoding data which has been securely and scalably encoded. As discussed from column 7, line 51, to column 10, line 51, the video data is comprised of a stream of uncompressed video frames which are received by a segmenter 702 of the encoder system 700 of Fig. 7. In Fig. 6, step 604 makes provision for segmenting the received video data into corresponding tiles. In Fig. 10B, a video frame 1000 has been segmented into corresponding regions 1002, 1004, 1006, 1008, 1010 and 1012.

As discussed from column 8, line 62, to column 9, line 17 of *Wee*, each region thus segmented is coded by encoder 704 into two portions: header data and scalable video data. It is further discussed that the header data describes, for example, the region that a data packet represents and other information used for subsequent transcoding and decoding operations. More particularly, the header data contains information including a series of recommended truncation points for data packet transcoder.

In step 608 of Fig. 6 of *Wee*, the scalable video data is progressively encrypted to generate progressively encrypted scalable video data. In this respect, at column 9, lines 18-58, it is discussed that progressive encryption techniques to encrypt the scalable video data are employed. Such progressive encryption techniques include, for example, cipher block chains or stream ciphers. At column 10, lines 35-51, it is discussed that the payload data is encrypted progressively and the header data is left unencrypted. The unencrypted header contains information such as recommended truncation points within the encrypted payload data. The header data may be encrypted to add additional security.

At column 9, lines 23-32 of *Wee*, it is discussed that the progressively encrypted data has the property that the first portion can be decrypted alone, without requiring information from the remainder of the original data. From column 16, line 56, to column 17, line 20, it is mentioned that header data portion 2002 of Fig. 20 may contain information specifying recommended points for truncating the payload portion, i.e. the header data portion may contain information representing potential truncation points 2006, 2008 and 2010.

The Examiner appears to be equating the “header data representing the amplitude of the data of the region considered” recited in Claim 1 to the “truncation points” mentioned in *Wee*.

The recitation “modifying” of Claim 1 cannot be equated to the term “encrypting” mentioned in *Wee*. This is because in *Wee* the header data portion may be entirely encrypted, whereas the modifying step of Claim 1 is performed among the header

data.

Applicants note that by virtue of the recitation in Claim 1 of “modifying among the header data specific to at least one region of the signal, the part of the header data representing the amplitude of the data of the region considered,” a part of the header data is encrypted which can render the signal thus modified not directly decodable. (See the present specification at page 4, lines 16-21.^{1/})

In contrast, the truncation points in *Wee* are used for truncating each data packet at an appropriate cutoff point and the packets thus truncated will contain the appropriate number of bits for each region of the image for the desired quality level, as mentioned from column 8, lines 10-52. Thus, the change in truncation points is part of a normal scalable encoding process. After this, the signal of *Wee* is directly decodable via an appropriate decoder.

Applicants have found nothing in *Kayama* or *Wee*, whether considered either separately or in any permissible combination (if any) that would teach or suggest “encoding the signal in a format comprising header data specific to each region and which comprise at least one part representing the amplitude of the data of the region considered,” and “modifying among the header data specific to at least one region of the signal, the part of the header data representing the amplitude of the data of the region considered,” as recited in Claim 1.

^{1/}It is of course to be understood that the references to various portions of the present application are by way of illustration and example only, and that the claims are not limited by the details shown in the portions referred to.

Applicants also have found nothing in *Kayama* or *Wee*, whether considered either separately or in any permissible combination (if any) that would teach or suggest “wherein the modifying step includes making use of at least one transformation key Ku,” as recited in Claim 1.

Accordingly, Applicants submit that Claim 1 is patentable over the cited art, and respectfully request withdrawal of the rejection under 35 U.S.C. § 103(a). Independent Claims 10, 18, 27, and 30-33 include a feature similar to that discussed above, in which a digital signal includes a header with “one part representing the amplitude of the data of the region considered,” which is modified. Furthermore, Claims 10, 27, 31, and 33 include the feature of “modifying in reverse the modified part of the header data in order to restore the unmodified part of the header data of the signal.” Therefore, those claims also are believed to be patentable for at least the same reasons as discussed above.

The other rejected claims in this application depend from one or another of the independent claims discussed above and, therefore, are submitted to be patentable for at least the same reasons. Because each dependent claim also is deemed to define an additional aspect of the invention, individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

This Amendment After Final Action is believed clearly to place this application in condition for allowance and, therefore, its entry is believed proper under 37 C.F.R. § 1.116. Accordingly, entry of this Amendment After Final Action, as an earnest effort to advance prosecution and reduce the number of issues, is respectfully requested. Should the Examiner believe that issues remain outstanding, it is respectfully requested that

the Examiner contact Applicants' undersigned attorney in an effort to resolve such issues and advance the case to issue.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'R. A. DiPerna', written over a horizontal line.

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